

W110720005.ST25.txt
SEQUENCE LISTING

<110> Williams, Kevin J.
<120> Thrombospondin Fragments and Uses Thereof In Clinical Assays for
Cancer and Generation of Antibodies and Other Binding Agents
<130> W1107-20005
<140> 10/419,462
<141> 2003-04-21
<160> 64
<170> PatentIn version 3.3
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Thr Glu Glu Asn Lys Glu
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Cys Leu Gln Asp Ser Ile Arg Lys Val Thr Glu Glu Asn Lys Glu
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Cys Asn Ser Pro Ser Pro Gln Met Asn Gly Lys Pro Cys Glu Gly Glu
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Ala Arg

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Arg Lys Val Thr Glu Glu Asn Lys Glu Leu Ala Asn Glu Leu Arg Arg
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Arg Pro

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Asp Cys Glu Lys Met Glu
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Asp

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Lys Thr Gly

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Pro Lys Thr Gly
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Ile Phe Glu Leu Thr Gly Ala Ala Arg Lys Gly Ser Gly Arg Arg Leu
                               35                               40                               45
Val Lys Gly Pro Asp Pro Ser Ser Pro Ala Phe Arg Ile Glu Asp Ala
                               50                               55                               60
Asn Leu Ile Pro Pro Val Pro Asp Asp Lys Phe Gln Asp Leu Val Asp
 65                               70                               75                               80
Ala Val Arg Ala Glu Lys Gly Phe Leu Leu Leu Ala Ser Leu Arg Gln
                               85                               90                               95
Met Lys Lys Thr Arg Gly Thr Leu Leu Ala Leu Glu Arg Lys Asp His
                               100                               105                               110
Ser Gly Gln Val Phe Ser Val Val Ser Asn Gly Lys Ala Gly Thr Leu
                               115                               120                               125
Asp Leu Ser Leu Thr Val Gln Gly Lys Gln His Val Val Ser Val Glu
                               130                               135                               140
Glu Ala Leu Leu Ala Thr Gly Gln Trp Lys Ser Ile Thr Leu Phe Val
 145                               150                               155                               160
Gln Glu Asp Arg Ala Gln Leu Tyr Ile Asp Cys Glu Lys Met Glu Asn
                               165                               170                               175
Ala Glu Leu Asp Val Pro Ile Gln Ser Val Phe Thr Arg Asp Leu Ala
                               180                               185                               190
Ser Ile Ala Arg Leu Arg Ile Ala Lys Gly Gly Val Asn Asp Asn Phe
                               195                               200                               205
Gln Gly Val Leu Gln Asn Val Arg Phe Val Phe Gly Thr Thr Pro Glu
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Asp Ile Leu Arg Asn Lys Gly Cys Ser Ser Ser Thr Ser Val Leu Leu
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 Thr Leu Asp Asn Asn Val Val Asn Gly Ser Ser Pro Ala Ile Arg Thr
 245 250 255
 Asn Tyr Ile Gly His Lys Thr Lys Asp Leu Gln Ala Ile Cys Gly Ile
 260 265 270
 Ser Cys Asp Glu Leu Ser Ser Met Val Leu Glu Leu Arg Gly Leu Arg
 275 280 285
 Thr Ile Val Thr Thr Leu Gln Asp Ser Ile Arg Lys Val Thr Glu Glu
 290 295 300
 Asn Lys Glu Leu Ala Asn Glu Leu Arg Arg Pro Pro Leu Cys Tyr His
 305 310 315 320
 Asn Gly Val Gln Tyr Arg Asn Asn Glu Glu Trp Thr Val Asp Ser Cys
 325 330 335
 Thr Glu Cys His Cys Gln Asn Ser Val Thr Ile Cys Lys Lys Val Ser
 340 345 350
 Cys Pro Ile Met Pro Cys Ser Asn Ala Thr Val Pro Asp Gly Glu Cys
 355 360 365
 Cys Pro Arg Cys Trp Pro Ser Asp Ser Ala Asp Asp Gly Trp Ser Pro
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 Trp Ser Glu Trp Thr Ser Cys Ser Thr Ser Cys Gly Asn Gly Ile Gln
 385 390 395 400
 Gln Arg Gly Arg Ser Cys Asp Ser Leu Asn Asn Arg Cys Glu Gly Ser
 405 410 415
 Ser Val Gln Thr Arg Thr Cys His Ile Gln Glu Cys Asp Lys Arg Phe
 420 425 430
 Lys Gln Asp Gly Gly Trp Ser His Trp Ser Pro Trp Ser Ser Cys Ser
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 Val Thr Cys Gly Asp Gly Val Ile Thr Arg Ile Arg Leu Cys Asn Ser
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 Pro Ser Pro Gln Met Asn Gly Lys Pro Cys Glu Gly Glu Ala Arg Glu
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Thr Lys Ala Cys Lys 485 Lys Asp Ala Cys Pro 490 Ile Asn Gly Gly Trp 495 Gly
 Pro Trp Ser Pro 500 Trp Asp Ile Cys Ser 505 Val Thr Cys Gly Gly 510 Gly Val
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 Lys Glu Val 595 Pro Asp Ala Cys Phe 600 Asn His Asn Gly Glu 605 His Arg Cys
 Glu Asn 610 Thr Asp Pro Gly Tyr 615 Asn Cys Leu Pro Cys 620 Pro Pro Arg Phe
 Thr Gly Ser Gln Pro Phe 630 Gly Gln Gly Val Glu 635 His Ala Thr Ala Asn 640
 Lys Gln Val Cys Lys 645 Pro Arg Asn Pro Cys 650 Thr Asp Gly Thr His Asp 655
 Cys Asn Lys Asn 660 Ala Lys Cys Asn Tyr 665 Leu Gly His Tyr Ser 670 Asp Pro
 Met Tyr Arg 675 Cys Glu Cys Lys Pro 680 Gly Tyr Ala Gly Asn 685 Gly Ile Ile
 Cys Gly Glu Asp Thr Asp 695 Leu Asp Gly Trp Pro Asn 700 Glu Asn Leu Val
 Cys Val Ala Asn Ala Thr 710 Tyr His Cys Lys Lys 715 Asp Asn Cys Pro Asn 720
 Leu Pro Asn Ser Gly Gln Glu Asp Tyr Asp Lys Asp Gly Ile Gly Asp

Ala Cys Asp Asp Asp Asp Asn Asp Lys Ile Pro Asp Asp Arg Asp
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 Asp Val Gly Asp Arg Cys Asp Asn Cys Pro Tyr Asn His Asn Pro Asp
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 Gln Ala Asp Thr Asp Asn Asn Gly Glu Gly Asp Ala Cys Ala Ala Asp
 785 790 795 800
 Ile Asp Gly Asp Gly Ile Leu Asn Glu Arg Asp Asn Cys Gln Tyr Val
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 Tyr Asn Val Asp Gln Arg Asp Thr Asp Met Asp Gly Val Gly Asp Gln
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 Cys Asp Asn Cys Pro Leu Glu His Asn Pro Asp Gln Leu Asp Ser Asp
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 Ser Asp Arg Ile Gly Asp Thr Cys Asp Asn Asn Gln Asp Ile Asp Glu
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 Asp Gly His Gln Asn Asn Leu Asp Asn Cys Pro Tyr Val Pro Asn Ala
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 Asn Gln Ala Asp His Asp Lys Asp Gly Lys Gly Asp Ala Cys Asp His
 885 890 895
 Asp Asp Asp Asn Asp Gly Ile Pro Asp Asp Lys Asp Asn Cys Arg Leu
 900 905 910
 Val Pro Asn Pro Asp Gln Lys Asp Ser Asp Gly Asp Gly Arg Gly Asp
 915 920 925
 Ala Cys Lys Asp Asp Phe Asp His Asp Ser Val Pro Asp Ile Asp Asp
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 Ile Cys Pro Glu Asn Val Asp Ile Ser Glu Thr Asp Phe Arg Arg Phe
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 Gln Met Ile Pro Leu Asp Pro Lys Gly Thr Ser Gln Asn Asp Pro
 965 970 975

Trp Val Val Arg His Gln Gly Lys Glu Leu Val Gln Thr Val Asn Cys
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Asp Pro Gly Leu Ala Val Gly Tyr Asp Glu Phe Asn Ala Val Asp Phe
 995 1000 1005

Ser Gly Thr Phe Phe Ile Asn Thr Glu Arg Asp Asp Asp Tyr Ala
 1010 1015 1020

Gly Phe Val Phe Gly Tyr Gln Ser Ser Ser Arg Phe Tyr Val Val
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Met Trp Lys Gln Val Thr Gln Ser Tyr Trp Asp Thr Asn Pro Thr
 1040 1045 1050

Arg Ala Gln Gly Tyr Ser Gly Leu Ser Val Lys Val Val Asn Ser
 1055 1060 1065

Thr Thr Gly Pro Gly Glu His Leu Arg Asn Ala Leu Thr His Thr
 1070 1075 1080

Gly Asn Thr Pro Gly Gln Val Arg Thr Leu Trp His Asp Pro Arg
 1085 1090 1095

His Ile Gly Trp Lys Asp Phe Thr Ala Tyr Arg Trp Arg Leu Ser
 1100 1105 1110

His Arg Pro Lys Thr Gly Phe Ile Arg Val Val Met Tyr Glu Gly
 1115 1120 1125

Lys Lys Ile Met Ala Asp Ser Gly Pro Ile Tyr Asp Lys Thr Tyr
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Ala Gly Gly Arg Leu Gly Leu Phe Val Phe Ser Gln Glu Met Val
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Phe Phe Ser Asp Leu Lys Tyr Glu Cys Arg Asp Pro
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Gly Thr

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 20 25 30

Gly Pro Asp Pro Ser Ser Pro Ala Phe Arg Ile Glu Asp Ala Asn Leu
 35 40 45

Ile Pro Pro Val Pro Asp Asp Lys Phe Gln Asp Leu Val Asp Ala Val
 50 55 60

Arg Ala Glu Lys Gly Phe Leu Leu Leu Ala Ser Leu Arg Gln Met Lys
 65 70 75 80

Lys Thr Arg Gly Thr Leu Leu Ala Leu Glu Arg Lys Asp His Ser Gly
 85 90 95

Gln Val Phe Ser Val Val Ser Asn Gly Lys Ala Gly Thr Leu Asp Leu
 100 105 110

Ser Leu Thr Val Gln Gly Lys Gln His Val Val Ser Val Glu Glu Ala
 115 120 125

Leu Leu Ala Thr Gly Gln Trp Lys Ser Ile Thr Leu Phe Val Gln Glu
 130 135 140

Asp Arg Ala Gln Leu Tyr Ile Asp Cys Glu Lys Met Glu Asn Ala Glu
 145 150 155 160

Leu Asp Val Pro Ile Gln Ser Val Phe Thr Arg Asp Leu Ala Ser Ile
 165 170 175

Ala Arg Leu Arg Ile Ala Lys Gly Gly Val Asn Asp Asn Phe Gln Gly
 180 185 190

Val Leu Gln Asn Val Arg Phe Val Phe Gly Thr Thr Pro Glu Asp Ile
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Leu Arg Asn Lys Gly Cys Ser Ser Ser Thr Ser Val Leu Leu Thr Leu
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Asp Asn Asn Val Val Asn Gly Ser Ser Pro Ala Ile Arg Thr Asn Tyr
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Ile Gly His Lys Thr Lys Asp Leu Gln Ala Ile Cys Gly Ile Ser Cys
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Asp Glu Leu Ser Ser Met
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Ser Ile Arg Lys Val Thr Glu Glu Asn Lys Glu Leu Ala Asn Glu Leu
20 25 30

Arg Arg Pro Pro Leu Cys Tyr His Asn Gly Val Gln Tyr Arg Asn Asn
35 40 45

Glu Glu Trp Thr Val Asp Ser Cys Thr Glu Cys His Cys Gln Asn Ser
50 55 60

Val Thr Ile Cys Lys Lys Val Ser Cys Pro Ile Met Pro Cys Ser Asn
65 70 75 80

Ala Thr Val Pro Asp Gly Glu Cys Cys Pro Arg Cys Trp Pro Ser Asp
Page 16

Ser Ala

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Cys Gly Asn Gly Ile Gln Gln Arg Gly Arg Ser Cys Asp Ser Leu Asn
 20 25 30

Asn Arg Cys Glu Gly Ser Ser Val Gln Thr Arg Thr Cys His Ile Gln
 35 40 45

Glu Cys Asp Lys Arg Phe Lys Gln Asp Gly Gly Trp Ser His Trp Ser
 50 55 60

Pro Trp Ser Ser Cys Ser Val Thr Cys Gly Asp Gly Val Ile Thr Arg
 65 70 75 80

Ile Arg Leu Cys Asn Ser Pro Ser Pro Gln Met Asn Gly Lys Pro Cys
 85 90 95

Glu Gly Glu Ala Arg Glu Thr Lys Ala Cys Lys Lys Asp Ala Cys Pro
 100 105 110

Ile Asn Gly Gly Trp Gly Pro Trp Ser Pro Trp Asp Ile Cys Ser Val
 115 120 125

Thr Cys Gly Gly Gly Val Gln Lys Arg Ser Arg Leu Cys Asn Asn Pro
 130 135 140

Ala Pro Gln Phe Gly Gly Lys Asp Cys Val Gly Asp Val Thr Glu Asn
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Gln Ile Cys Asn Lys Gln Asp Cys Pro Ile
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20     25
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35     40     45
Asp Ala Cys Phe Asn His Asn Gly Glu His Arg Cys Glu Asn Thr Asp
50     55     60
Pro Gly Tyr Asn Cys Leu Pro Cys Pro Pro Arg Phe Thr Gly Ser Gln
65     70     75     80
Pro Phe Gly Gln Gly Val Glu His Ala Thr Ala Asn Lys Gln Val Cys
85     90     95
Lys Pro Arg Asn Pro Cys Thr Asp Gly Thr His Asp Cys Asn Lys Asn
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Asp Gly Ile Gly Asp Ala Cys Asp Asp Asp Asp Asn Asp Lys Ile
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Pro Asp Asp Arg
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Leu Asn Glu Arg
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Asp Arg Ile Gly Asp Thr Cys Asp Asn Asn Gln Asp Ile Asp Glu Asp
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Gly His Gln Asn Asn Leu
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<400> 51

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Pro Asp Asp Lys
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Pro Asp Ile Asp
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35 40 45

Cys Asp Pro Gly Leu Ala Val Gly Tyr Asp Glu Phe Asn Ala Val Asp
50 55 60

Phe Ser Gly Thr Phe Phe Ile Asn Thr Glu Arg Asp Asp Asp Tyr Ala
65 70 75 80

Gly Phe Val Phe Gly Tyr Gln Ser Ser Ser Arg Phe Tyr Val Val Met
85 90 95

Trp Lys Gln Val Thr Gln Ser Tyr Trp Asp Thr Asn Pro Thr Arg Ala
100 105 110

Gln Gly Tyr Ser Gly Leu Ser Val Lys Val Val Asn Ser Thr Thr Gly
115 120 125

Pro Gly Glu His Leu Arg Asn Ala Leu Trp His Thr Gly Asn Thr Pro

130

135

Gly Gln Val Arg Thr Leu Trp His Asp Pro Arg His Ile Gly Trp Lys
145 150 155 160

Asp Phe Thr Ala Tyr Arg Trp Arg Leu Ser His Arg Pro Lys Thr Gly
165 170 175

Phe Ile Arg Val Val Met Tyr Glu Gly Lys Lys Ile Met Ala Asp Ser
180 185 190

Gly Pro Ile Tyr Asp Lys Thr Tyr Ala Gly Gly Arg Leu Gly Leu Phe
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Arg Asp Pro
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